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ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)								DATE February 1999		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development				PE NUMBER AND TITLE 0604801A Aviation - Engineering Development				PROJECT DC45		
COST (In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
DC45 Aircrew Integrated Systems - ED	5402	11519	6312	9264	3687	2293	2587	2610	Continuing	Continuing
<p>A. Mission Description and Budget Item Justification: Aircrew Integrated Systems (ACIS) – Engineering Manufacturing Development (EMD) project provides engineering and manufacturing development for those systems and items of equipment which are unique and necessary for the sustainment, survivability, and performance of Army aircrews and troops on the future integrated battlefield and related training missions. The basic Air Warrior EMD programs will focus on air vehicle integration, airworthiness considerations, and user evaluation of multiple technologies to improve aircrew mission performance, aircrew comfort, aircrew and aircrew station interface, safety and survivability. These funds also include work on: advanced laser protection against emerging new threat systems; product improvement to existing helmets to improve performance and increase commonality; development and adaptation of airbag technology to Army aircraft to improve crash protection and enhance aircrew survivability. Follow-on integration and test of Air Warrior program product improvement effort will continue to enhance and maximize aircrew performance in force modernized aircraft by integrating new technologies into the basic Air Warrior ensemble. Maximum advantage will be taken of simulation to reduce program technical risk through early user evaluation and to reduce program design and test cost and schedules. This project does not duplicate any aircraft platform program efforts. Both joint and service independent efforts continue to be pursued under the scope of this project.</p> <p>FY 1998 Accomplishments:</p> <ul style="list-style-type: none"> • 1848 Continued UH-60 Cockpit Air Bag System pre-production evaluation and testing • 2216 Initiated Air Warrior Engineering Manufacturing Development effort • 618 Continued Advanced Laser Eye Protection (Joint Service) Engineering Manufacturing Development • 720 Test articles of 50 ship sets and 168 gas generators for the UH-60 Cockpit Air Bag System <p>Total 5402</p> <p>FY 1999 Planned Program:</p> <ul style="list-style-type: none"> • 6099 Continue Air Warrior Engineering Manufacturing Development effort and development of technical insertion plan • 500 Complete Advanced Laser Eye Protection (Joint Service) Engineering Manufacturing Development • 4628 Initiated Helmet Mounted Display Engineering Manufacturing Development • 292 Small Business Innovation Research/Small Business Technology(SBIR/STTR) Transfer Programs. <p>Total 11519</p> <p>FY 2000 Planned Program:</p> <ul style="list-style-type: none"> • 6312 Continue Air Warrior Engineering Manufacturing Development for basic ensemble and components design <p>Total 6312</p>										
<div style="display: flex; justify-content: space-between;"> Project DC45 Page 1 of 4 Pages Exhibit R-2 (PE 0604801A) </div>										

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FY 2001 Planned Program: <ul style="list-style-type: none"> • 7138 Continue Air Warrior Engineering Manufacturing Development effort for ensemble developmental and operational test • 1726 Initiate AH-64 Cockpit Air Bag System pre-production evaluation and testing • 400 Test Articles of 40 ship sets for the AH-64 Cockpit Air Bag System <p>Total 9264</p>																																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;">B. Program Change Summary</th> <th style="text-align: center; padding: 5px;"><u>FY 1998</u></th> <th style="text-align: center; padding: 5px;"><u>FY 1999</u></th> <th style="text-align: center; padding: 5px;"><u>FY 2000</u></th> <th style="text-align: center; padding: 5px;"><u>FY 2001</u></th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Previous President's Budget (FY 1999 PB)</td> <td style="text-align: center; padding: 5px;">4951</td> <td style="text-align: center; padding: 5px;">6599</td> <td style="text-align: center; padding: 5px;">6508</td> <td style="text-align: center; padding: 5px;">9638</td> </tr> <tr> <td style="padding: 5px;">Appropriated Value</td> <td style="text-align: center; padding: 5px;">5109</td> <td style="text-align: center; padding: 5px;">11599</td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">Adjustments to Appropriated Value</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">a. Congressional General Reductions</td> <td style="text-align: center; padding: 5px;">-158</td> <td style="text-align: center; padding: 5px;">-80</td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">b. SBIR / STTR</td> <td style="text-align: center; padding: 5px;">-112</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">c. Omnibus or Other Above Threshold Reductions</td> <td style="text-align: center; padding: 5px;">-37</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">d. Below Threshold Reprogramming</td> <td style="text-align: center; padding: 5px;">+600</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">e. Rescissions</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="padding: 5px;">Adjustments to Budget Years Since FY 1999 PB</td> <td></td> <td></td> <td style="text-align: center; padding: 5px;">-196</td> <td style="text-align: center; padding: 5px;">-374</td> </tr> <tr> <td style="padding: 5px;">Current Budget Submit (FY 2000 / 2001 PB)</td> <td style="text-align: center; padding: 5px;">5402</td> <td style="text-align: center; padding: 5px;">11519</td> <td style="text-align: center; padding: 5px;">6312</td> <td style="text-align: center; padding: 5px;">9264</td> </tr> </tbody> </table> <p style="margin-top: 10px;">Change Summary Explanation: Funding FY 1998 – Funds reprogrammed to cover requirements for the UH-60 Cockpit Air Bag System EMD (+600).</p>						B. Program Change Summary	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	Previous President's Budget (FY 1999 PB)	4951	6599	6508	9638	Appropriated Value	5109	11599			Adjustments to Appropriated Value					a. Congressional General Reductions	-158	-80			b. SBIR / STTR	-112				c. Omnibus or Other Above Threshold Reductions	-37				d. Below Threshold Reprogramming	+600				e. Rescissions					Adjustments to Budget Years Since FY 1999 PB			-196	-374	Current Budget Submit (FY 2000 / 2001 PB)	5402	11519	6312	9264
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E. Schedule Profile	<u>FY 1996</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
Air Warrior Functional Analysis Review and Preferred Alternative selected			4Qtr							
Air Warrior Milestone II approved				1Qtr						
EMD for Air Warrior basic ensemble				4Qtr	4Qtr	4Qtr	2Qtr			
Development of Technical Insertion Plan				4Qtr						
Air Warrior Preliminary Design Review					1Qtr					
Critical Design Review and initial Prototype Development					3Qtr					
Air Warrior System Test (Development/Qualification)						1Qtr				
Initial Air Warrior Operation Test & Evaluation Compete						4Qtr				
Continuous evaluation, test, and insertion of new technologies as Air Warrior product improvements						4Qtr	4Qtr	4Qtr	4Qtr	4Qtr
Air Warrior basic ensemble Milestone III							2Qtr			
Production of the basic Air Warrior ensemble during FY2002 through FY2008							4Qtr	4Qtr	4Qtr	4Qtr
Air Warrior basic ensemble IOC								3Qtr		
Production of Air Warrior ensemble product improvements as emerging technologies can be inserted during FY 2003 through FY 2012								4Qtr	4Qtr	4Qtr
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ARMY RDT&E COST ANALYSIS (R-3)										DATE February 1999		
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Air Warrior	C-CPFF	Contractor – TBD	465	5528	Mar 1999	3295	Nov 1999	3941	Nov 2000	Cont	13229	Cont
b. Adv Laser Eye Protection	C-CPFF	Aotec, Southbirdge, MA	771	344	Dec 1998					0	1115	Cont
c. AH-64 Cockpit Air Bags	SS-CPFF	Simula, Inc., Phoenix, AZ						2000	Nov 2000	0	2000	Cont
d. Product Dev Integration	Fixed Rate	Various		100	Quarterly	672	Quarterly	592	Quarterly	Cont	1364	Cont
e. Helmet Mounted Display	SS-CPFF	Microvision, Seattle, WA		4092	Dec 1998					Cont	4092	Cont
Subtotal Product Development:			1236	10064		3967		6533			21800	Cont
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Matrix Support	Reimbursable	Various Government		595	Quarterly	468	Quarterly	407	Quarterly	Cont	1470	Cont
Subtotal Support Costs:				595		468		407			1470	Cont
III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Matrix Support	Reimbursable	Various Government		242	Quarterly	265	Quarterly	660	Quarterly	Cont	1167	Cont
Subtotal Test and Evaluation:				242		265		660			1167	Cont
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. PM Administration	Reimbursable			618		1612		1664		Cont	3894	Cont
Subtotal Management Services:				618		1612		1664			3894	Cont
Project Total Cost:			1236	11519		6312		9264			28331	Cont
Project DC45												